



OPEN Trends in access to primary care among Canadian older adults before, during, and following the COVID-19 public health emergency

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The COVID-19 pandemic significantly disrupted access to primary care, particularly for older adults with complex health needs. We conducted a cross-sectional survey to study changes in behaviours of access to primary care among Canadian older adults and how having an attached family physician (FP) impacts their experiences. People aged 65 and older living in Canada with at least one contact with the primary care since 2015 reported on their healthcare experiences across three periods: pre-, during and post-COVID-19 public health emergency. Findings from 1,899 participants revealed that while some aspects of access improved after the COVID-19, many challenges persisted. The proportion of older adults with an attached FP dropped from 87% before COVID-19 (2019) to 79% during the post period (2022–2024). Long wait times, delayed referrals, and a lack of available services remained. As a result, emotional well-being, physical activity, economic and quality of life were significantly impacted, with many respondents reported ongoing effects. Older adults with poorer health status and in rural areas are among those who experienced the greatest hardship; whilst people with a regular FP reported to have less difficulties when access to care and experienced better health outcomes.

Keywords Primary care, Healthcare access, Virtual care, COVID-19, Patient satisfaction

Access to primary healthcare is a cornerstone of a well-functioning universal healthcare system, particularly for older adults who often require continuous and coordinated care due to multiple chronic conditions¹. Effective access encompasses several key components: the availability of healthcare providers, geographic proximity to services, affordability, accommodation of patient needs, and the acceptability of care provided². These elements, particularly the accessibility and affordability, collectively influence patients' ability to obtain necessary medical attention and maintain continuity of care³. In Canada, the publicly funded healthcare system aims to ensure equitable access to services, in which everyone should be registered with a primary care provider who serves as the first point of contact for any health-related issue⁴.

Older adults represent a rapidly growing segment of the Canadian population, with those aged 65 and over projected to increase from 18.9% in 2023 to between 21.9% and 32.3% in 2073⁵. This demographic shift places increased demands on the healthcare system, particularly in the domain of primary care, which plays a critical role in managing complex chronic conditions, supporting aging in place, and preventing hospitalizations. The COVID-19 pandemic exacerbated access challenges, disrupted healthcare delivery, increased appointment cancellations, and prolonged wait times⁷. Social distancing measures contributed to workforce shortages, and the reallocation of healthcare resources limited access to routine and preventive care, disproportionately affecting older adults with complex medical needs⁸, leaving them among the most vulnerable populations during the pandemic⁹. Further, the pandemic also added to existing stressors on the healthcare workforce, leading to burnout, early retirement, and clinic closure¹⁰. Many older adults experienced difficulties accessing their primary care providers due to the widespread adoption of virtual consultations, clinic closures, and staffing shortages¹¹. As healthcare systems transitioned beyond the acute phase of the pandemic, they faced new challenges in restoring access to primary care while adapting to an evolving healthcare landscape¹². The rapid expansion of virtual care occurred with limited evidence of its usability among older populations, highlighting the need for a critical evaluation of the accessibility, effectiveness, and equity of primary care in the post-pandemic era.

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Despite the recognized importance of primary care, there remains a significant gap in the literature concerning how older adults' access patterns have shifted during and after the COVID-19 pandemic in Canada. Given the shifting healthcare landscape, this study aims to explore the trends in primary care utilization in Canada in (1) the pre-COVID period (2015–2019), (2) the emergency phase of COVID-19 (2020–2022), and (3) the post-emergency phase (2023–2024), with focus on two hypotheses: (1) attachment to an FP would protect against unmet care needs and negative impacts, and (2) older adults in marginalized groups – including those with poorer health, lower income, less education, non-English/French speakers, and rural residents – would face greater disruption. Findings from this study will contribute to discussions on health system resilience, by providing evidence to develop strategies for reducing inequities in primary care access during and after a crisis, and to support policies that promote healthy aging¹³.

Results

Cohort description

Of 8,373 individuals invited, 2,717 opened the survey and 1,921 completed it, yielding a response rate of 23%, a completion rate of 71% and a final analytic sample of 1,899; inclusion and exclusion of participants are detailed in Fig. 1.

Characteristics of our cohort are presented in Table 1. Overall, the distribution of age, sex, and region is representative of the Canadian distribution¹⁴. However, regardless of our effort to oversample, the prevalence of Indigenous people, people of visible minorities, and people whose first language is different from English and French is still smaller than the general Canadian population¹⁵. Only a small number of respondents resided in senior homes (2.6%) also limits our ability to compare their experiences with those living in private residences.

The prevalence of patients with an attached FP declined from 87% before the start of the pandemic to 77% during the emergency phase of COVID and remains the same afterward (79%). National monitoring shows that about 92% of Canadians aged 65 and older report having a regular health care provider in 2022^{16,17}, compared with 77–79% in our survey, a difference likely reflecting definitional differences and persistent post-pandemic detachment.

Visit frequency

Before the pandemic, the share of respondents who required care but had no visits increased from 5% pre-pandemic to 15% during, then decreased back to 6% post-pandemic. Monthly visit frequency remained relatively

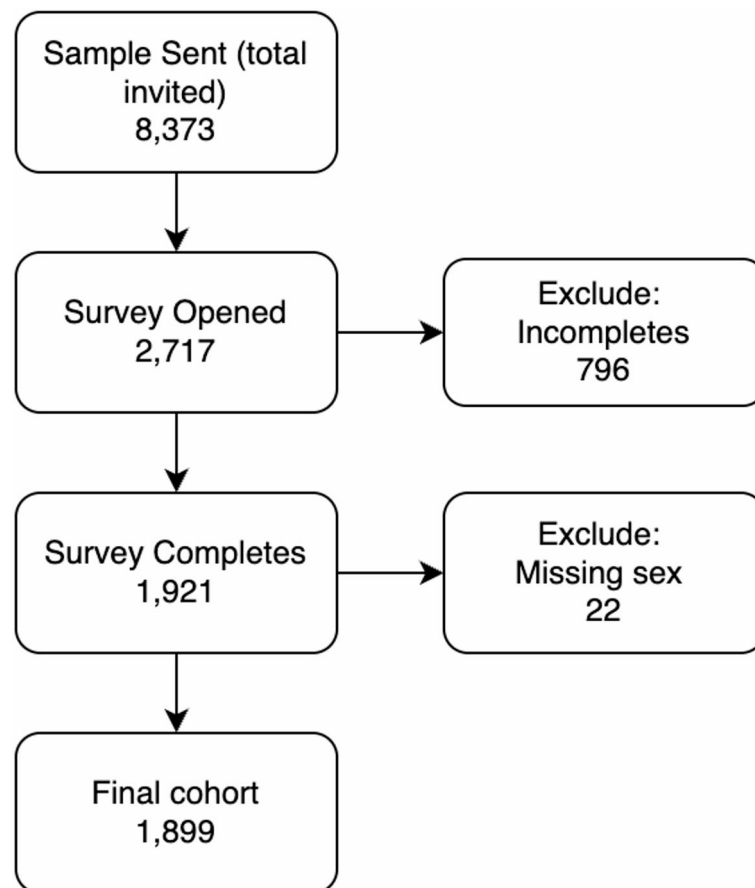


Fig. 1. Flowchart of inclusion and exclusion criteria.

Variable	Category	Count	Percentage
Age	65–69	639	33.6
	70–74	516	27.2
	75–79	474	25.0
	80+	270	14.2
Sex	Male	954	50.2
	Female	945	49.8
Rurality	Urban	1621	85.4
	Rural	278	14.6
Indigenous people	Yes	73	3.8
Visible minorities	Yes	182	9.6
First language	English	1378	72.6
	French	437	23.0
	Other	80	4.2
Income	< \$50,000	642	33.8
	\$50,000 – \$100,000	801	42.2
	\$100,000 – \$200,000	385	20.3
	>\$200,000	49	2.6
Education	High school graduate	475	25.0
	Undergraduate degree / diploma / trade-certificate	1084	57.1
	Advanced degree (Master's, PhD, MD)	258	13.6
	Other	69	3.6
Immigration status	Citizen	1800	94.8
	Permanent resident	95	5.0
	Visitor	1	0.1
Residence setting	Private home	1810	95.3
	Senior home	49	2.6
	Other	28	1.5
Household	Living alone	513	27.0
	With a partner / spouse	1185	62.4
	With friends / roommates	20	1.1
	With children / grandchildren	68	3.6
	Other	31	1.6
Region	British Columbia	298	15.7
	Alberta	185	9.7
	Saskatchewan	53	2.8
	Manitoba	64	3.4
	Ontario	688	36.2
	Quebec	487	25.6
	New Brunswick	42	2.2
	Nova Scotia	49	2.6
	Newfoundland and Labrador	24	1.3
	Prince Edward Island	6	0.3
	Yukon	5	0.2
	Northwest Territories and Nunavut	5	0.2
Health status	Excellent	162	9.9
	Very good	389	23.7
	Good	618	37.6
	Fair	36	2.2
	Poor	438	26.7

Table 1. Demographic characteristics of the cohort, $n = 1,899$.

stable, but a higher proportion of patients reported quarterly, and biannual visits post-pandemic compared to pre-pandemic (Table 2).

Form of care

Virtual care was marginal of only 4% pre-pandemic, became the dominant form during the pandemic (40%), then dropped back to 7%. After the pandemic, 65% of respondents returning to in-person care and 29% using mixed formats (Table 2).

Two ordinal logistic models to assess the likelihood of older adults requiring but not receiving primary care during and after the pandemic found that self-rated health status, continuity of care, and demographic factors played important roles (Table 3). Compared to those reporting “Excellent” health, individuals who reported “Good” health had significantly higher odds of not being able to see their primary care provider (OR=1.73, 95% CI: 1.01–2.98). “Fair” or “Poor” health even had higher odds of experiencing unmet care (OR=2.12, 95% CI: 1.18–3.83 and OR=2.61, 95% CI: 1.08–6.21, respectively). After the pandemic, the ORs are still high but no longer statistically significant. Meanwhile, having an attached FP continued to be associated with a substantial reduction in the odds of unmet care needs both during (OR=0.44, 95% CI: 0.32–0.63) and after the pandemic (OR=0.2, 95% CI: 0.13–0.32). Other predictors, including income, education, sex, and rurality, were not significantly associated with care avoidance.

Wait times, cancellations

The availability and timeliness of care have declined since the pandemic. Respondents reporting wait times longer than one week rose (from 32% to 36%), and the share of those waiting over a month grew from 6% to

	Before COVID	During COVID	After COVID
Cancelled appointment			
Never	84% (82–86)	75% (73–76)	79% (77–81)
Occasionally	11% (10–13)	14% (13–16)	13% (12–15)
Often	1% (1–2)	2% (1–2)	1% (1–2)
Charlson Comorbidity Index (CCI)			
Mean (SD)	0.78 (1.21)	0.89 (1.35)	1.10 (1.60)
Median (IQR)	0 (0–1)	0 (0–1)	1 (0–2)
Mode of care			
In-person	79% (77–80)	29% (27–31)	57% (55–59)
Virtual	3% (3–4)	34% (31–36)	6% (5–7)
Mixed	9% (8–10)	21% (19–23)	25% (23–27)
Other	1% (1–1)	2% (1–2)	1% (1–2)
Having attached FPs			
No	9% (8–10)	13% (11–14)	12% (11–14)
Yes	87% (85–88)	77% (75–79)	79% (77–80)
Satisfaction			
Very satisfied	49% (47–52)	37% (35–39)	41% (39–43)
Satisfied	35% (33–37)	32% (30–34)	33% (31–35)
Neither satisfied nor unsatisfied	7% (6–8)	12% (11–14)	9% (8–11)
Unsatisfied	3% (2–3)	6% (5–8)	6% (5–7)
Very unsatisfied	2% (1–3)	3% (2–4)	5% (4–6)
Visit frequency			
Did not require care	25% (23–27)	33% (31–35)	23% (21–25)
Required but did not have any visit	5% (4–6)	14% (13–16)	6% (5–7)
Once every month	3% (2–3)	3% (2–3)	3% (2–4)
Once every three months	16% (15–18)	11% (10–13)	18% (17–20)
Once every six months	38% (36–40)	26% (24–28)	35% (33–37)
Once every year	12% (10–13)	8% (7–10)	11% (9–12)
Wait time			
Same day	8% (7–9)	6% (5–7)	6% (5–8)
Within 3 days	23% (21–25)	17% (15–19)	18% (17–20)
Within a week	28% (26–30)	25% (23–27)	23% (22–25)
1–4 weeks	31% (29–33)	30% (28–32)	34% (32–36)
More than a month	7% (6–8)	10% (9–11)	11% (10–13)

Table 2. Visit frequency, wait time, cancellations, modes of care across time.

	During vs. Before		After vs. Before	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Having attached FPs				
No	Reference	Reference	Reference	Reference
Yes	0.44 (0.32–0.63)	< 0.001	0.20 (0.13–0.32)	< 0.001
Income				
\$50,000 – \$100,000	Reference	Reference	Reference	Reference
>\$100,000	0.95 (0.66–1.37)	0.788	0.67 (0.37–1.23)	0.195
< \$50,000	0.89 (0.65–1.23)	0.490	1.00 (0.64–1.59)	0.986
Health status				
Excellent	Reference	Reference	Reference	Reference
Very good	1.17 (0.67–2.03)	0.590	0.95 (0.42–2.18)	0.912
Good	1.73 (1.01–2.98)	0.047	1.74 (0.79–3.81)	0.168
Fair	2.12 (1.18–3.83)	0.012	1.30 (0.53–3.18)	0.565
Poor	2.61 (1.08–6.31)	0.034	1.62 (0.44–5.92)	0.468
Sex				
Female	Reference	Reference	Reference	Reference
Male	0.80 (0.61–1.06)	0.119	0.99 (0.66–1.50)	0.980
Rurality				
Urban	Reference	Reference	Reference	Reference
Rural	0.70 (0.45–1.08)	0.106	0.63 (0.32–1.26)	0.193
Education				
High school graduate	Reference	Reference	Reference	Reference
Undergraduate degree / diploma / trade-certificate	1.17 (0.84–1.65)	0.353	1.41 (0.83–2.38)	0.200
Advanced degree (Master's, PhD, MD)	1.33 (0.83–2.12)	0.231	1.54 (0.75–3.19)	0.240
Other	0.49 (0.17–1.42)	0.191	1.13 (0.32–4.03)	0.846

Table 3. Odds ratio of not receiving needed care comparing during and after versus before COVID-19 among Canadian older adults, 2015–2024.

12% (Table 2). Over 80% of respondents had positive experiences with appointment cancellation over time. However, during COVID, the frequency of cancelled appointments increased and slightly shifted back to normal afterward, with frequent cancellations rising from 1% to 2%.

McNemar tests found significantly longer wait (> 1 week) during and after COVID, compared to before then ($p=0.009$ and $p<0.001$, respectively). Cancelled appointments occurred more often during COVID but not after the acute phase of the pandemic ($p=0.029$ and $p=0.572$, respectively). Follow-up logistic regressions found no significant association between socio-demographic factors and the longer wait during COVID. However, after COVID, those who resided in rural areas and those who hold an advanced degree (Master's, PhD, MD) experienced significantly higher odds of waiting more than 1 week to get their appointment (OR = 1.40, 95% CI: 1.06–1.84 and OR = 1.41, 95% CI: 1.01–1.97, respectively); people with "Poor" health also experienced longer wait comparing to those with "Excellent" health, OR = 2.42 (95% CI: 1.19–4.89). For cancellation, being female was associated with reduced odds of frequent appointment cancellations (OR = 0.41, 95% CI: 0.18–0.91), while having an attached FP was significantly associated with lower odds of frequent cancellations (OR = 0.26, 95% CI: 0.11–0.66). No other covariates, including income and education, were significantly associated with cancellations during or after the pandemic, suggesting that FP attachment played a particularly important role in ensuring continuity of care. Table 4 presents the findings in detail.

Difficulties in access

Referral delays were among the most significant and consistent barriers, with 45% higher odds of reporting referral difficulties during the pandemic (OR = 1.45, 95% CI: 1.17–1.79), and 70% higher odds after the pandemic (OR = 1.70, 95% CI: 1.38–2.09). Respondents were more likely to report care as expensive (OR = 1.69, 95% CI: 1.07–2.66) after the pandemic, while the odds of reporting lack of required services were significantly elevated both during (OR = 1.32, 95% CI: 1.00–1.75) and after the pandemic (OR = 1.53, 95% CI: 1.16–2.00). Other common difficulties in access to primary care, such as transportation, culture, or language barriers, were not statistically significant (Fig. 2).

When compared to people with yearly income from \$50,000 to \$100,000, people with lower income (< \$50,000 a year) reported more health-related financial hardship during COVID (OR = 2.54, 95% CI: 1.15–5.59). Compared with people who had "Excellent" health status, all other categories experienced difficulties in finding

	During vs. Before			After vs. Before		
	Long wait time	Frequent cancellation	Satisfaction	Long wait time	Frequent cancellation	Satisfaction
Income						
\$50,000–100,000	Reference	Reference	Reference	Reference	Reference	Reference
>\$100,000	0.78 (0.60–1.01)	0.83 (0.65–1.08)	0.75 (0.56–1.01)	2.14 (0.80–5.71)	1.49 (0.42–5.33)	0.73 (0.53–0.99)
< \$50,000	0.95 (0.76–1.20)	0.89 (0.71–1.11)	0.82 (0.63–1.06)	1.51 (0.63–3.63)	1.58 (0.58–4.28)	0.76 (0.58–1.00)
Health status						
Excellent	Reference	Reference	Reference	Reference	Reference	Reference
Very good	1.39 (0.97–2.00)	1.67 (1.17–2.39)	1.26 (0.85–1.88)	0.61 (0.18–2.08)	0.71 (0.18–2.83)	1.21 (0.79–1.85)
Good	1.37 (0.95–1.97)	1.35 (0.94–1.92)	0.89 (0.60–1.32)	0.70 (0.21–2.29)	0.35 (0.08–1.63)	0.83 (0.55–1.26)
Fair	1.39 (0.92–2.09)	1.51 (1.01–2.25)	0.90 (0.63–1.46)	1.16 (0.33–4.11)	1.05 (0.24–4.57)	0.94 (0.58–1.51)
Poor	1.63 (0.81–3.28)	2.42 (1.19–4.89)	0.50 (0.24–1.06)	0.93 (0.10–8.72)	2.46 (0.39–15.75)	0.50 (0.23–1.06)
Sex						
Female	Reference	Reference	Reference	Reference	Reference	Reference
Male	0.99 (0.81–1.21)	0.82 (0.68–1.00)	1.40 (1.11–1.75)	0.41 (0.18–0.91)	0.40 (0.15–1.06)	1.44 (1.14–1.83)
Rurality						
Urban	Reference	Reference	Reference	Reference	Reference	Reference
Rural	1.13 (0.86–1.49)	1.40 (1.06–1.84)	0.91 (0.67–1.25)	0.56 (0.16–1.88)	0.48 (0.11–2.10)	0.88 (0.64–1.22)
Having attached FPs						
No	Reference	Reference	Reference	Reference	Reference	Reference
Yes	1.03 (0.77–1.37)	0.96 (0.72–1.28)	4.75 (3.53–6.39)	0.45 (0.19–1.05)	0.26 (0.11–0.66)	5.07 (3.75–6.86)
Education						
High school	Reference	Reference	Reference	Reference	Reference	Reference
Undergraduate degree / diploma / trade-certificate	0.87 (0.69–1.11)	1.08 (0.85–1.37)	0.92 (0.71–1.21)	0.69 (0.31–1.57)	0.76 (0.29–2.00)	1.12 (0.85–1.48)
Advanced degree (Master's, PhD, MD)	1.14 (0.82–1.60)	1.41 (1.01–1.97)	1.28 (0.86–1.91)	0.36 (0.07–1.75)	0.32 (0.04–2.74)	1.27 (0.84–1.91)
Other	0.76 (0.43–1.34)	0.73 (0.41–1.28)	1.35 (0.69–2.65)	1.81 (0.38–8.75)	1.27 (0.15–11.02)	1.21 (0.62–2.39)

Table 4. Odds ratio of experiencing long wait time and frequent cancellation among groups of Canadian older adults, 2024–2025.

needed services, with ORs increased from 3.70 (95% CI: 1.11–12.37) to 12.71 (95% CI: 3.04–53.13) for “Good” and “Poor” health. Recognizing self-rated health status could be subjective, although the CCI was not retained in the final model ($p > 0.2$ in univariable analysis), we conducted sensitivity analyses re-estimating models with CCI included alongside self-rated health, as well as models substituting CCI for self-rated health. Results were consistent with the main analyses. Male respondents were 36% less likely to have difficulty in getting a referral compared to females (OR = 0.64, 95% CI: 0.48–0.86). While people in rural areas were more likely to experience a lack of services than those living in urban cities both during and after COVID (OR = 3.72, 95% CI: 2.41–5.72 and OR = 3.37, 95% CI: 2.21–5.14, respectively), people with an attached FP reported significantly lower difficulties across aspects, including getting a referral, receiving appropriate services, and financial issues (ORs range from 0.30 to 0.55).

Impacts of delayed care

Delayed primary care access impacted mostly all domains, the proportion of reported impacts increased sharply during COVID and remained elevated after that (Fig. 3).

Taking the pre-pandemic period as the baseline of primary care access among older adults in Canada, ordered logistic regressions found strong statistical evidence that delays in accessing primary care were associated with increased impacts on various aspects of patients' lives during and after the COVID-19 pandemic. The odd of reporting greater emotional impacts were 3.85 times higher during COVID (95% CI: 2.99–4.94) and remained significantly elevated after COVID at 3.24 (95% CI: 2.51–4.18). Similarly, the odds of reporting health-related impacts were 2.67 times higher during COVID (95% CI: 2.04–3.50) and 3.34 times higher after (95% CI: 2.57–4.36). These consistent trends were observed across other domains, such as long-term consequences (OR = 2.08, 95% CI: 1.49–2.91 and OR = 3.34, 95% CI: 2.43–4.58, for during and after COVID, respectively) and delayed access to medication (OR = 2.53, 95% CI: 1.70–3.77 and OR = 3.27, 95% CI: 2.23–4.82, for during and after COVID, respectively).

Comparing to before COVID, delays in care after COVID also has significant increments in impacts on economic (OR = 1.62, 95% CI: 1.12–2.35), education (OR = 1.86, 95% CI: 1.06–3.27), physical activity (OR = 3.40, 95% CI: 2.56–4.52), and quality of life (OR = 3.33, 95% CI: 2.57–4.31). The largest observed odds were for social life impacts, with an OR of 6.66 (95% CI: 4.44–9.98) during COVID and 3.99 (95% CI: 2.62–6.08) after COVID.

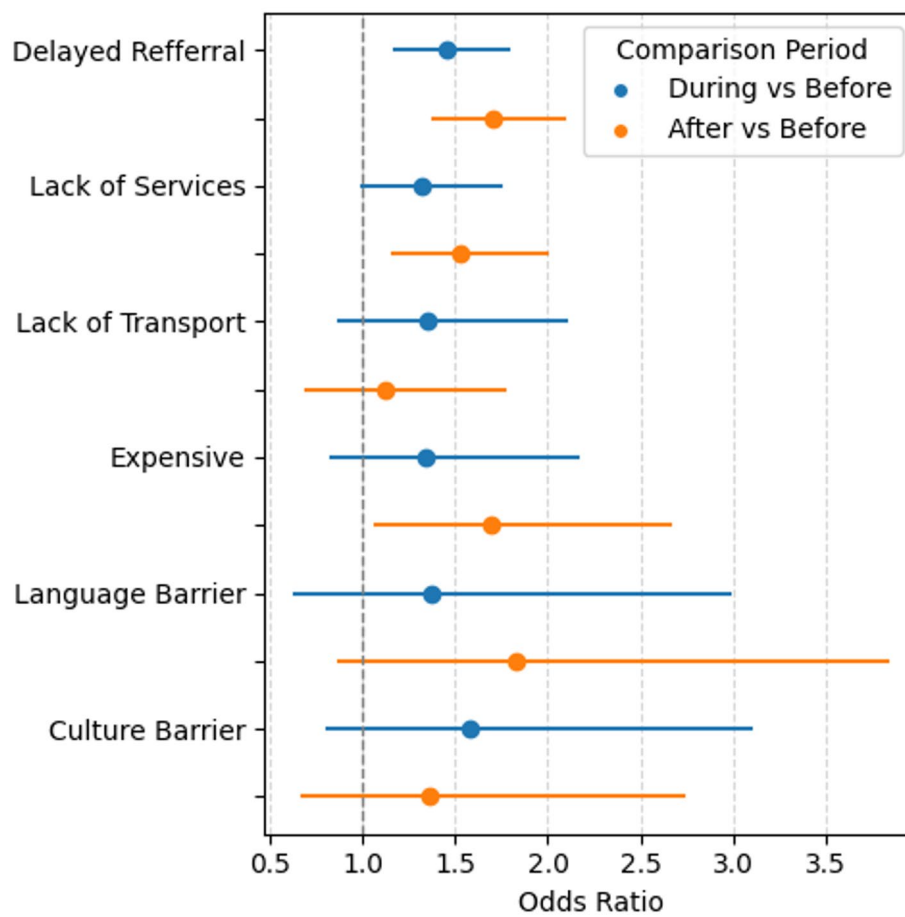


Fig. 2. Difficulties in access to primary care among older adults, 2024–2025.

After the pandemic, income brackets play a significant role on impact where people with yearly income less than \$50,000 were 2.4 times more likely to experience economic impact (OR=2.38, 95% CI: 1.35–4.21) and 1.4 times more likely to experience worse quality of life than those whose income falls between \$50,000 and \$100,000 (OR=1.44, 95% CI: 1.02–2.04). Whilst people who earn more than \$100,000 a year reported more impact on their health (OR=1.72, 95% CI: 1.18–2.52).

Not having an attached FP and “Poor” health status significantly affect numerous dimensions of life and health. Increased odds ratio for “Fair” and “Poor” health across all impact types often show 3 to 15 times higher odds of reporting negative impacts. While having a regular FP significantly associated with less impact on health, emotional and social wellbeing, and medication access, both during and after COVID (ORs range from 0.32 to 0.83); respondents with a regular FP also reported less likely to have issues with their quality of life after the pandemic (OR=0.66, 95%CI: 0.44–0.99).

Satisfaction

Satisfaction with primary care services increased during the pandemic (OR=1.74, 95% CI: 1.52–1.99). However, post-pandemic satisfaction declined (OR=0.89, 95% CI: 0.78–1.02) and has not returned to pre-pandemic levels.

Among all covariates tested, having an attached FP was the most consistent and strongest predictor of higher satisfaction. During the crisis, people who had a regular FP have 4.38 times higher odds of being satisfied (compared to those who do not have a FP). After the pandemic, the positive association between FP attachment and satisfaction persisted (OR=0.48, 95% CI: 0.34–0.67); the relationship between self-rated health and satisfaction remained significant, with those reporting “Very good” health showing higher odds of satisfaction compared to those in “Good” health (OR=1.19), and those in “Poor” health continuing to report lower satisfaction (OR=0.52) (Table 4).

Discussion

Our survey on access to primary care for Canadian older adults before, during, and after the emergency phase of the COVID-19 pandemic services suggests that attachment to a regular FP significantly improves older adults’ access to care and buffers against service disruption. Using Levesque’s framework, we found that while some dimensions of access have regained the level of pre-COVID, others remain problematic, particularly for older adults with lower income, poorer health, and those who did not have an attached FP.

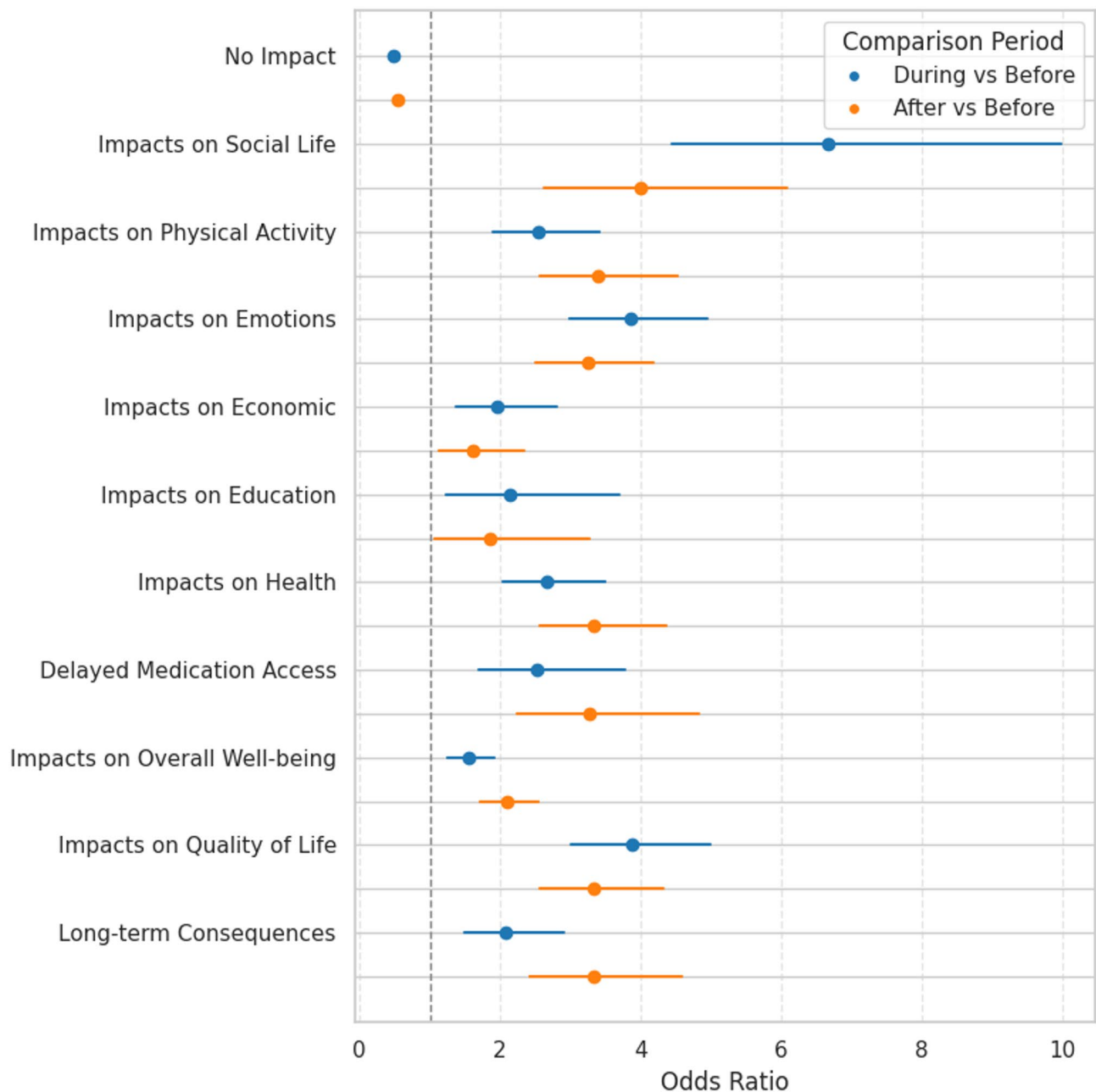


Fig. 3. Impacts of delayed primary care access among Canadian older adults, 2015–2024: trends over time.

Approachability: patterns in seeking and perceiving the need for care

The ability to recognise and seek primary care when needed has remained a critical issue throughout and beyond the pandemic as people of lower health status were even more likely to not be able to access to the care needed. While this might be due to fear of COVID, unclear guidance, or lower confidence in navigating disrupted systems¹⁸, attachment to a regular primary care provider plays a vital role in ensuring continuity of care, trust, and ease of navigating the system to fulfill care needs. Older adults without an attached FP consistently reported lower satisfaction with care and higher levels of unmet needs, indicating persistent difficulties in initiating care. These patterns align with existing evidence demonstrating that being attached to a primary care provider is associated with better access and health outcomes, especially among older adults¹⁹. However, our survey found that, Canada-wide, the prevalence of older adults who had an attached FP fell significantly from 87% pre-pandemic to 79% post-pandemic. Given the aging population and the increasing prevalence of multimorbidity in later life, this decline in attachment poses serious implications for the sustainability of the healthcare system and equitable aging.

Additionally, we found that after the emergency phase of the pandemic, the prevalence of hybrid forms of care (in-person and virtual visits) became the most common, with older adults feeling most comfortable with virtual care as an additionally useful tool, instead of a sole replacement to in-person visits^{20,21}. Our results

indicate older adults' preference for in-person care, which could either reflect personal preferences or barriers in the limited services offered, for example, for clinical examination or cognitive care²². This highlights a need to design hybrid models of care that are better attuned to the access needs and technological comfort levels of older adults.

Acceptability: satisfaction with care and the shift in care modalities

The acceptability of care and how well it aligns with individuals' cultural, social, and personal preferences were very likely significantly influenced by the rise of virtual and hybrid care models. However, while hybrid and virtual care provide the flexibility and enhance approachability, a previous study found that older adults from marginalized populations, like non-English speakers or immigrants, often find it challenging to use technology and to discuss sensitive issues remotely via a phone call or a screen²³; this aligns with our observation of virtual care being the least common preference outside of the social distancing window.

We found that satisfaction with care increased during COVID, likely due to lowered expectations when appreciation for any care increased²⁴ and the introduction of virtual care that served as an immediate solution²⁵, but then, satisfaction declined post-pandemic, which might reflect that perceived unmet expectations for improvement or return to normal²⁶. People with an attached FP and with better health status were more likely to be satisfied with the care they received. This aligns with our other findings on unmet care needs above, highlighting the potential importance of having a regular FP, especially during and after a crisis. Furthermore, those with an FP were significantly less likely to report emotional and social impacts during and after the pandemic, suggesting that consistent relationships in care contribute to better emotional well-being and perceived support²⁷. From what we observed, ensuring that evolving care modalities both acceptable and equitable for all older adults will require addressing disparities in digital access, preferences, and cultural comfort with care delivery formats.

Availability and accommodation: ability to physically reach and use services when needed

The pandemic strained the availability and accommodation of health services, with prolonged effects on timely access, appointment reliability, and continuity of care. During COVID, it was clear and accepted that the availability of care was disrupted, where cancellations were more frequent and wait times were longer²⁸. However, these negative changes remained even after two years of the emergency phase of COVID, with higher odds of delays among those in rural areas, with advanced education, and poor health. The service bottlenecks and backlog were not fully resolved after the emergency state, indicating persistent challenges in care availability or scheduling, which was also seen in other countries with similar health care systems such as England²⁹. For older adults, many of whom have mobility constraints or rely on regular monitoring for chronic illnesses, the continued disruption of service availability may have deeper and more lasting consequences³⁰. These delays risk exacerbating health disparities and compounding the vulnerability already experienced by this group during the pandemic.

Even with the rise of virtual care, rural populations still faced hardships, which might be due to geographic and provider shortages with more pressure on already smaller teams and fewer resources^{31,32}; limited broadband access and lower digital infrastructure in rural areas, which may have hindered the uptake of timely virtual appointments, reinforcing disparities in wait times.

On the other hand, people with higher education levels often have greater health literacy, leading to more precise expectations for what constitutes timely or standard-quality care³³. They may be more selective in appointment scheduling and prefer specific providers, request specialized services, or decline appointments that do not meet perceived standards, resulting in longer actual wait times³⁴. Hence, the same system may appear available but produce differential wait times depending on where people live and what they expect or require from care. Persistent delays and disruptions point to ongoing system-level challenges and emphasize the need for responsive scheduling and resource planning that addresses both demand and equity³⁵.

Affordability: economic hardship

The pandemic exacerbates financial barriers to care even within Canada's publicly funded system. Older adults reported that care services are significantly more expensive after COVID. This may reflect the cumulative financial strain experienced due to disruptions in income and savings and also might reflect postponed and overdue care^{36,37}. This also might be due to the removal of temporary support, such as subsidies, emergency benefits, etc., which increased upfront and out-of-pocket costs, especially for those with multiple chronic diseases and no private insurance to support extra fees, such as outpatient prescriptions³⁸, among the increasing of cost in mostly all other living expenses, including housing, food, etc^{39,40}. Older adults with an annual income under \$50,000 were particularly 2.5 times more likely to report financial difficulty during and even after the pandemic. They also had higher odds of reduced quality of life. This aligns with findings worldwide^{41,42}. In contrast, people earning more than \$100,000 reported greater health impacts post-pandemic, potentially reflecting unmet expectations or higher engagement with healthcare services among people with greater health literacy as discussed above. Meanwhile, having an attached FP is associated with lower odds of experiencing financial issues, emphasizing the protective role of continuous primary care relationships^{43,44}. Our findings call for future studies to explore the hidden costs of care, particularly for low-income older adults facing compounded economic and health vulnerabilities.

Appropriateness: mismatch between care received and needs

The appropriateness of care, whether services are well-matched to patients' needs, was increasingly challenged during and after the pandemic, particularly for those with complex health conditions. Referrals and many care services have been delayed since COVID and continue to worsen, indicating sustained disruption in coordinated care pathways. Aligning with another study in Canada, Hafid et al. (2024), which emphasized the prolonged

consequences of the pandemic, adding additional stressors on the already strained health care system²⁸. During COVID, as health systems prioritized COVID-related care, referrals to specialists and diagnostics were deferred or suspended, creating a large backlog⁴⁵. Afterward, the system has been struggling to catch up, especially with limited specialist capacity, leading to prolonged delays⁴⁶. In addition, workforce shortages due to provider burnout, early retirement, support staff turnover, and clinic closure also add to the burden, reducing the availability of providers for appropriate services, as well as to process and accept referrals^{10,46}. These trends may also reflect an unequal recovery, where the rebound in healthcare services may have been uneven across regions or populations⁴⁷.

Older adults with fair to poor health were significantly more likely to report inappropriate care and negative health impacts. This underscores a mismatch between service capacity and the needs of those with complex health conditions⁴⁸. Again, having an attached FP was associated with positive outcomes in all dimensions, emphasizing the essential role of primary care and having regular first contact within the healthcare system⁴⁹.

Impacts of delayed primary care

These hardships in access to primary care among Canadian older adults described above have led to serious impacts on their lives and health. In our cohort, all respondents indicated that they had experienced impacts of delayed care, with only social impacts fully abating after the pandemic, likely due to the removal of social distancing policies⁷. Other dimensions, such as emotional well-being, physical activity, and general quality of life were strongly affected and remain significant.

Emotional stress due to barriers accessing care during the pandemic may have been further influenced by emotional distress caused by isolation, due to physical distancing policies, and loss (the majority of COVID deaths, for example, were among older adults). Emotional distress related to access to care continued to be felt after the pandemic ended, possibly because mental health services were hard to reach, or support was limited while the system tried to recover⁵⁰.

Previous research has documented that during the pandemic, restrictions on movement, closure of fitness facilities, and reduced motivation contributed to reduced physical activity⁵¹. Our results suggest that access to care also influenced physical activity for older adults, with a greater impact after the pandemic, indicating difficulty in resuming routines, particularly among older adults or those with chronic illnesses whose conditions may have been worsened by barriers to care⁵¹.

We also see that barriers to access to care had negative effects on overall well-being and quality of life among older adults. This could be due to multiple interconnected stressors, including unresolved or delayed effects, such as deferred diagnoses, prolonged wait time, ongoing stress, or challenges adapting to a “new normal”⁷. These combined challenges show the wide impact of the pandemic, where disruptions in care and everyday life led to isolation, stress, and financial difficulty. Even after restrictions ended, the healthcare system was still under pressure, with long wait times and delays that likely made it harder for people to feel their lives had fully recovered. The continuing effects on older adults’ lives after the pandemic may indicate long-term consequences of interrupted chronic disease management or late detection of new health issues³⁰.

Strengths and limitations

Our findings draw on a large national sample and apply a comprehensive framework to examine access from multiple dimensions. The use of the Levesque model helped highlight both structural and experiential aspects of access. This study also has limitations. First, it relies entirely on patients’ self-reported responses, which may be biased due to inaccurate recall, especially for events that occurred several years ago, i.e., difficulty of remembering pre-COVID experiences, potential under/over-reporting, and likely attenuation of observed associations; as recall bias is particularly relevant for older adults, and future prospective or longitudinal studies might want to confirm our findings. Second, as mentioned, despite our efforts to reach specific priority populations, their representation in our sample remains lower than in the general Canadian population, which may affect the representativeness of our findings. This may explain why there were no significant findings related to differences across these groups or regarding access to cultural and linguistically appropriate care. This re-emphasizes that research that works with diverse populations of older adults to better understand their experiences accessing health care is specifically needed. Also, while recruiting through Leger 360’s proprietary online panel improves coverage, the panel is not a random probability sample and may underrepresent certain groups, including individuals without internet access or those living in remote areas. Older adults living in senior homes were underrepresented in our sample, and further research is needed to more fully assess their access to care and pandemic-related experiences. Finally, although we attempted to collect information across time periods, all these data were collected at a single point in time, based on retrospective cross-sectional recall. As such, given the observational nature of the study, any causal interpretations should be made with caution to avoid overstating our findings.

Recommendations for future research and policy

As Canadian health system continue to adjust to the long-term impacts of the pandemic, restoring service volumes alone is not enough. We need to pay attention to how care is delivered, who is being left behind, and what matters most to patients, especially older adults living with multiple chronic conditions. Future research should explore how innovation and technology affect healthcare access and health outcomes, particularly for those with complex needs, as there is evidence that people in poorer health are more likely to have missed timely and appropriate care. Furthermore, given the declining trend in FP attachment and its demonstrated importance for equitable and continuity of care during crisis, future policies must prioritize re-establishing and supporting long-term patient-provider relationships, especially for older adults.

Conclusion

More than five years after the pandemic began, its shadow over primary care access and the lives of older adults is still evident. Continuity and coordination of care, as well as patient experience, remain disrupted or have even worsened. Inequities have become more apparent, with older adults without a regular care provider, those in poorer health, and those in lower income groups facing the greatest hardship.

With a focus on healthy aging and aging in place, reimagining what accessible, equitable, and appropriate care looks like, especially for those most affected by the disruptions of the past few years, should be a priority. Our findings strongly support the conclusion that maintaining attachment to a FP is a cornerstone of equitable, accessible, and resilient primary care for older Canadians, which is particularly timely and essential in a post-COVID world, where virtual care is increasingly common but may not always be the best option, and where the number of people without a regular first point of contact in the health system continues to grow.

Methods

Data source and study population

We conducted a national survey across Canada between February and April 2025. The survey was available in both English and French. Participants were recruited through Leger 360's proprietary online panel, one of Canada's largest panels for public opinion and health research, comprising more than 400,000 Canadians across all provinces and territories. Panel members are recruited through multiple channels (telephone, social media, partnerships, and referrals) to enhance diversity. For this study, a stratified sample was drawn to reflect provincial population distributions of adults aged 65 years and older. We also conducted a second recruitment to target Indigenous people and people of visible minorities. Participants were required to provide consent to participate and confirm their age range to determine eligibility, while all other survey questions were voluntary.

Study design and survey instrument

The survey questionnaire (Supplementary 1) collected self-reported information across three time periods: before COVID-19 (2015–2019), during the emergency phase of COVID-19 (2020–2022), and after the emergency phase of COVID-19 (2023–2024). In defining these time periods, we recognized COVID is an ongoing health issue and used the dates it was considered a Public Health Emergency of International Concern to delineate the start of the pandemic and the end of its emergency phase.

The survey was based on previously developed and validated questionnaires⁵². It included the following domains:

- **Predictor:** having an attached FP.
- **Outcomes:** wait times, appointment cancellations, difficulties accessing care, perceived impact of delayed access to care, and satisfaction with services received.
- **Covariates:** age, sex, annual income, visible minority status, immigration status, education level, current health condition, presence of chronic conditions, and mode of care (virtual vs. in-person) among other covariates as listed in Table 1.

Noting that Visible minority status was defined according to Statistics Canada as persons, other than Indigenous peoples, who are non-Caucasian in race or non-white in colour⁵³; while “occasionally” referred to 1–2 cancelled appointments per year, while “often” referred to 3 or more cancelled appointments per year.

To guide our analysis and interpretation of access to care outcomes, we mapped our survey outcomes onto the Levesque et al. 2013 framework⁵⁴, which conceptualizes access along five interconnected dimensions: *approachability, acceptability, availability and accommodation, affordability, and appropriateness*. This stratification allowed us to examine not only the structural and logistical components of access but also how these intersect with cultural acceptability and the personal consequences of unmet needs.

Statistical analysis

The questionnaire required responses for all outcome variables; however, participants could choose “did not want to answer,” and those who did were excluded from the analysis for that question. Missing data for region/province were inferred from the first three digits of postal codes, and chronic conditions were assumed absent unless respondents indicated otherwise. No imputation was performed for missing data.

Descriptive statistics were used to summarize the sample's characteristics across the three time periods. To check for collinearity between covariates, we used Pearson correlation for continuous variables and Spearman rank correlation for categorical or ordinal variables. Trend analyses for outcomes using McNemar's test to examine changes in difficulties and impacts of healthcare access, as well as satisfaction over time. Logistic and ordinal logistic regression were performed for each outcome to compare its prevalence across the periods: during vs. before, and after vs. before the pandemic. Univariable regressions were performed for each covariate listed in Table 1; only those with a p-value for association larger than 0.2 were included as a covariate in the multivariable regressions. Forest plots were generated to visualize the results.

Virtual care access only and self-rated health was included as a covariate, given their established role as a predictor of health care use. To test robustness, we conducted sensitivity analyses by re-estimating models (i) with both self-rated health and CCI included regardless of univariable significance and (ii) with CCI substituted for self-rated health. Sensitivity analyses excluding respondents who reported only virtual care and adding an interaction term between family physician attachment and mode of care were also performed.

To simplify the interpretation and to avoid very small cell counts (<5), Likert-type responses were modeled using ordinal regression or collapsed into binary categories for interpretability when appropriate and necessary.

For example, (“very satisfied”, “satisfied”, “neither”, “unsatisfied”, “very unsatisfied”) to binary (“satisfied” vs. “unsatisfied”). We will state these occasions in the findings.

All data cleaning, management, analysis, and visualization were conducted using Python 3.11 with *pandas*, *numpy*, *statsmodels*, and *seaborn* libraries.

Ethical and data privacy considerations

This study received ethical approval from the SFU Research Ethics Board (approval number 30002383). All methods were performed in accordance with the relevant guidelines and regulations⁵⁵. Informed consent was obtained from all participants before they could proceed with the survey. Those who did not provide consent were automatically exited from the survey. Only email addresses were collected voluntarily at the end of the survey for the purpose of contacting gift card winners. These email addresses were stored securely and separately from other data with password protection on a Microsoft OneDrive managed by the SFU and were accessible only to the Principal Investigator (AP). Email data was permanently deleted after the draw and before any analysis. No other personally identifiable information was collected.

Data availability

The data that support the findings of this study are available on request from the corresponding author, AP. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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Author contributions

AP contributed to methodology, formal analysis, writing of the original draft, and funding acquisition. IA contributed to investigation, data curation, and writing—review and editing. JS contributed to conceptualization, supervision, and writing—review and editing. MT contributed to conceptualization and writing—review and editing. All authors reviewed and approved the final manuscript.

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Competing interests

The authors declare no competing interests.

Additional information

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